

92. (New) A device for inhibiting involuntary urine flow, comprising:
at least one electrode, which is adapted to be implanted in a pelvic muscle of a patient;
a sensor, which is adapted to sense a change in pressure of an abdomen or a urinary
bladder of the patient and to generate a signal responsive thereto; and
5 a control unit, which is adapted to receive the signal, analyze the signal to determine a
level of abdominal stress of the patient, and, responsive thereto, apply an electrical waveform to
the electrode which stimulates the muscle to contract so as to inhibit involuntary urine flow
through the patient's urethra due to the stress.

10 93. (New) A device according to claim 92, wherein the control unit is adapted to apply the
electrical waveform responsive to electromyographic signals received from the at least one
electrode.

15 94. (New) A device according to claim 92, wherein the control unit comprises a processor,
which is adapted to analyze the signals so as to determine when an involuntary urine flow is
likely, whereupon the waveform is applied.

20 95. (New) A device according to claim 94, wherein the processor is programmable to vary
one or more parameters associated with the application of the waveform.

96. (New) A device according to claim 95, and comprising a wireless receiver, which is
adapted to receive data for programming the processor from a programming unit outside the
patient's body.

25 97. (New) A device according to claim 92, wherein the control unit is adapted to be
implanted in the body of the patient.

98. (New) A device according to claim 97, wherein the control unit comprises a rechargeable power source.

99. (New) A device according to claim 98, wherein the power source is recharged by inductive energy transfer, substantially without electrical contact between the control unit and any object outside the patient's body.

100. (New) A device according to claim 92, wherein the at least one electrode is adapted to be implanted in the levator ani muscle.

101. (New) A device according to claim 92, wherein the at least one electrode is adapted to be implanted in the urethral sphincter muscle.

102. (New) A device according to claim 92, wherein the at least one electrode is adapted to be implanted in the pelvic muscle, the pelvic muscle being adjacent to the urethral sphincter muscle.

103. (New) A device for inhibiting involuntary urine flow, comprising:
at least one electrode, which is adapted to be implanted in a pelvic muscle of a patient;
a sensor, which is adapted to perform a strain measurement of an abdomen or a urinary bladder of the patient, and to generate a signal responsive thereto; and
a control unit, which is adapted to receive the signal, analyze the signal to determine a level of abdominal stress of the patient, and, responsive thereto, apply an electrical waveform to the electrode which stimulates the muscle to contract so as to inhibit involuntary urine flow through the patient's urethra due to the stress.

104. (New) A device according to claim 103, wherein the control unit is adapted to apply the electrical waveform responsive to electromyographic signals received from the at least one electrode.

5 105. (New) A device according to claim 103, wherein the control unit comprises a processor, which is adapted to analyze the signals so as to determine when an involuntary urine flow is likely, whereupon the waveform is applied.

10 106. (New) A device according to claim 105, wherein the processor is programmable to vary one or more parameters associated with the application of the waveform.

107. (New) A device according to claim 103, wherein the control unit is adapted to be implanted in the body of the patient.

15 108. (New) A device according to claim 103, wherein the at least one electrode is adapted to be implanted in the levator ani muscle.

109. (New) A device according to claim 103, wherein the at least one electrode is adapted to be implanted in the urethral sphincter muscle.

20 110. (New) A device according to claim 103, wherein the at least one electrode is adapted to be implanted in the pelvic muscle, the pelvic muscle being adjacent to the urethral sphincter muscle.

111. (New) A device for inhibiting involuntary urine flow, comprising:

at least one electrode, which is adapted to be placed in electrical contact with a pelvic muscle of a patient; and

a control unit, which is adapted to receive electromyogram signals from the electrode
5 and, responsive to a rate of change of the signals indicative of a possible involuntary urine flow,
to apply an electrical waveform to the electrode which stimulates the muscle to contract, so as to
inhibit the involuntary urine flow.

112. (New) A method for inhibiting involuntary urine flow of a patient, comprising:

implanting an electrode in a pelvic muscle of the patient;

receiving a pressure-measurement signal indicative of abdominal stress; and

responsive to the signal, applying an electrical waveform to the electrode, which
stimulates the muscle to contract so as to inhibit involuntary urine flow.

113. (New) A method according to 112, wherein implanting the electrode in the pelvic muscle
comprises implanting the electrode in the levator ani muscle.

114. (New) A method according to claim 112, wherein implanting the electrode in the pelvic
muscle comprises implanting the electrode in the urethral sphincter muscle.

115. (New) A method according to claim 112, wherein implanting the electrode comprises
implanting the electrode in proximity to the urethral sphincter muscle.

116. (New) A method according to claim 112, wherein applying the waveform comprises
25 applying the waveform responsive to an electromyographic signal.

117. (New) A method for inhibiting involuntary urine flow of a patient, comprising:
implanting an electrode in a pelvic muscle of the patient;
receiving a strain-measurement signal indicative of abdominal stress; and
responsive to the signal, applying an electrical waveform to the electrode, which
5 stimulates the muscle to contract so as to inhibit involuntary urine flow.

118. (New) A method according to 117, wherein implanting the electrode in the pelvic muscle
comprises implanting the electrode in the levator ani muscle.

AC 10 119. (New) A method according to claim 117, wherein implanting the electrode in the pelvic
muscle comprises implanting the electrode in the urethral sphincter muscle.

120. (New) A method according to claim 117, wherein implanting the electrode comprises
implanting the electrode in proximity to the urethral sphincter muscle.

5 121. (New) A method according to claim 117, wherein applying the waveform comprises
applying the waveform responsive to an electromyographic signal.

20 122. (New) A method for inhibiting involuntary urine flow, comprising:
placing an electrode in electrical contact with a pelvic muscle of a patient;
receiving electromyogram signals from the electrode indicative of abdominal stress in the
patient;
determining a rate of change of the signals; and
responsive to the rate of change, applying an electrical waveform to the electrode which
25 stimulates the muscle to contract, so as to inhibit an involuntary urine flow.